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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,029	03/31/2004	Jeff Craven	8156	4944

7590 06/06/2006  
John Doughty  
ARRIS International, Inc.  
3871 Lakefield Drive  
Suwanee, GA 30024

EXAMINER
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BELIVEAU, SCOTT E

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/814,029

Applicant(s)

CRAVEN ET AL.

Examiner

Scott Beliveau

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Miscellaneous***

1. Please note that the examination art unit for this application has changed to Art Unit 2623.

***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 April 2006 has been entered.

***Response to Amendment***

3. Applicant's responses and amendments to date appear to have been submitted via facsimile as single spaced documents that rendering it difficult for the examiner to read. Applicant's are respectfully reminded that 37 CFR 1.52(b)(2)(i) requires the usage of 1 ½ or double spacing in papers which are to become part of the official record and requests that applicant's subsequent responses utilize the required formatting.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

With respect to applicant's arguments such that the Novak et al. reference does not decode the content according to the type of content received, the examiner respectfully disagrees. If the type of content received was of a particular type or format, then it would appear counterintuitive to utilize a codec [304] which was not tailored to the particular type of content being received. For example, if the system received VoIP, the particular usage of a decoding algorithm associated with MPEG would clearly not generate the expected result.

With respect to applicant's arguments that the Novak does not disclose formatting a digital content signal into a broadband-transport-format signal at a sending location nor the complementary step at the receiving location of extracting the digital multimedia content from the broadband-transport-format, the examiner respectfully disagrees. The Novak et al. reference discloses the usage of a "headend" which is utilized to route signals derived from external sources such as the Internet [112] or programming sources [114] to the customer premise equipment [102]. The particular network interface [320] is DOCSIS compliant which requires a termination unit or CMTS to convert the digital media content such as that derived from the Internet into a broadband-transport-format signal in order to be received and processed by the DOCSIS compatible cable modem (See DOCSIS 2.0 – Section 1.3 – Background).

With respect to applicant's arguments pertaining to Novak et al. failing to teach or disclose the encapsulation of MPEP data within a DOCSIS carrier, it is respectfully noted that claims 1 and 11 do not require the particulars argued.

5. Applicant's arguments filed 17 April 2006 have been fully considered but they are not persuasive with respect to claim 20.

With respect to applicant's arguments regarding the Perlman reference failing to disclose a "means for decoding", the examiner respectfully disagrees. The grounds of rejection relies upon the embodiment illustrated in Figure 2C wherein the MPEG-2 decoder [270] is relied upon as the claimed or disclosed single "decoding means". The output from the decoder is subsequently clearly distributed to "one or more output ports" associated with the television [235]. For example, it is unclear as to why having ordinary skill would one conclude that the disclosed native video display signal for a television be sent to a television speaker which is clearly incapable of outputting a formatted video signal.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Perlman reference discloses the particular usage of the standardized DOCSIS, but does not disclose components described by applicants as typical components found in a cable modem for DOCSIS signal transport. It is the examiner's position that one having ordinary skill in the art would have been sufficiently motivated to utilize components typically found in a cable modem for the purpose of doing so as necessary to implement a DOCSIS compatible signal transport/reception.

With respect to applicant's arguments such that there would not be a likelihood of success to arrive at the claimed invention, the examiner respectfully disagrees. As noted in

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APA, the particular missing elements are those typically associated with DOCSIS cable modems. The interactive video distribution art is also a predictable art. Accordingly, one having ordinary skill would have had a reasonable expectation of success in utilizing components typically found in a DOCSIS based cable modem in association with a system that implements DOCSIS cable modems.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
8. Claims 1-5 and 7-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novak et al. (US Pub No. 2003/0126599) in view of common knowledge as supported by applicant's admitted prior art (APA).

In consideration of claim 1, Figure 1 of Novak et al. illustrates a “multimedia terminating device” [102] (Para. [0037]) for “providing multimedia content transmitted over a communication network” [101] and “received via a broadband connection” (Para. [0036] – [0039]). As illustrated in Figure 3, the “terminating device” [102] comprises “broadband communication circuitry for receiving multimedia content in a broadband format” [302] (Para. [0062]) and “decoder circuitry” [304/308/312] for “receiving content from the broadband communication circuitry, for decoding the content according to the type of content received and providing the decoded content to at least one user device” (ex. television [104] for audio/video, speaker [244] for audio) “based on the type of content” (Para. [0064]).

The reference, however, is silent with respect to the processing performed by the “broadband communication circuitry” in accordance with the usage of the disclosed DOCSIS signal transport such that it “extracts the content form the broadband format by stripping broadband protocol format information”. APA provides evidence of the fact that DOCSIS network interfaces or “broadband connection circuitry” [28] “extracts the content from the broadband format by stripping broadband protocol format information” so that the resulting information is provided via a bus interface to the decoding system (APA: Figure 2; Page 8, Line 22 – Page 9, Line 6). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the “broadband communication circuitry” [302] of Novak to “extract the content from the broadband format by stripping broadband protocol information” as known in the art for the purpose of doing so

as necessary to implement a DOCSIS compatible signal transport/reception in an inexpensive manner through the use of typically utilized components.

Claim 2 is rejected wherein Novak et al. discloses that the “broadband communication circuitry includes cable modem circuitry” [302] (Para. [0062]).

Claim 3 is rejected wherein the “broadband format is DOCSIS” (Novak et al.: Para. [0062]).

Claim 4 is rejected wherein the “decoder circuitry” [304/308/312] includes a “digital signal processor” (Novak et al.: Para. [0069]).

Claim 5 is rejected wherein the “decoder circuitry” [304/308/312] includes a “graphics processor” (Novak et al.: Para. [0066]).

Claim 7 is rejected wherein Novak et al. discloses that the “decoder circuitry” [304/308/312] includes a “audio output” (Novak et al.: Para. [0066]).

Claim 8 is rejected wherein the “decoder circuitry” [304/308/312] includes a “video output” (Novak et al.: Para. [0066]).

In consideration of claims 9 and 10, the “decoder circuitry includes a digital data connection host for connecting an external digital device” or “hard drive” such as a PVR (Novak et al.: Para. [0067]).

In consideration of claim 11, as aforementioned, Figure 1 of Novak et al. illustrates a system for implementing a “method for transporting a digital multimedia content over a broadband network from a central location” [110] to “one or more subscribers” (Para. [0036] – [0037]). The method comprises “converting the digital multimedia content into a digital multimedia content signal at the central location, formatting the digital content signal into a



broadband-transport-format signal, and transporting the broadband-formatted digital content signal towards the subscribers” in accordance with the formatting and distribution of a DOCSIS compatible signal to the receiving units. The subscriber unit [102] subsequently “receives the broadband-formatted digital content signal with broadband-communication circuitry” [302] (Para. [0062]), “decodes the digital multimedia content according to the type of content” (Para. [0064]) and “provides the digital multimedia content at one or more outputs according to content type” (Para. [0066] – [0067]).

The reference, however, is silent with respect to the processing performed in accordance with the usage of the disclosed DOCSIS signal transport such that it includes “extracting the digital multimedia content from the broadband-transport-format signal by stripping broadband protocol format information”. APA provides evidence of the fact that DOCSIS network interfaces to “extract . . . digital multimedia content form the broadband-transport-format signal by stripping broadband protocol format information” so that the resulting information is provided via a bus interface to the decoding system (APA: Figure 2; Page 8, Line 22 – Page 9, Line 6). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the processing method of Novak so as to further “extract the digital multimedia content from the broadband-transport-format signal by stripping broadband protocol format information” as known in the art for the purpose of doing so as necessary to implement a DOCSIS compatible signal transport/reception in an inexpensive manner through the use of typically utilized components.

Claim 12 is rejected wherein the “broadband-transport-format signal is a DOCSIS signal” (Novak et al.: Para. [0062]).

Claim 13 is rejected wherein Novak et al. discloses that the “broadband communication circuitry is cable modem circuitry” [302] (Novak et al.: Para. [0062]).

Claim 14 is rejected wherein “one of the outputs is a video output” (Novak et al.: Para. [0066]).

Claim 15 is rejected wherein “one of the outputs is an audio output” (Novak et al.: Para. [0066]).

Claim 16 is rejected wherein the “one of the outputs is a digital data host output” [310] (Novak et al.: Para. [0067]).

In consideration of claim 17, as aforementioned, the reference discloses the particular usage of DOCSIS (Novak et al.: Para [0062]). Accordingly, the limitation of “applying DOCSIS features to the broadband-transport-format signal to improve the transport thereof” is met in light of the DOCSIS implementation.

With respect to claim 18, APA provides evidence as to the common knowledge existence of a “Dynamic Service Flow MIB so as to reduce jitter” (IA: Page 10, Lines 4-6 and 9-17). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize “Dynamic Service Flow MIB so as to reduce jitter” in order to take advantage of standardized DOCSIS features.

With respect to claim 19, APA provides evidence as to the common knowledge existence that DOCSIS provides for a “Dynamic Channel Change. . . to select a transport channel based on bandwidth needed for the type of content contained in the broadband-formatted

digital content signal” (IA: Page 10, Line 18-25). Accordingly, it would have been obvious to one having ordinary skill art in the art at the time the invention was made so as to modify the “broadband communication circuitry” [302] so as to “apply” the particular usage of a “Dynamic Channel Change” for the purpose of noise avoidance or traffic balancing of requests.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Novak et al (US Pub No. 2003/0126599), in view of common knowledge as supported by applicant’s admitted prior art (APA), and in further view of Brooks et al (US Pat No. 6,816,940).

Regarding Claim 6, Novak shows that all of the circuitry is connected using a bus (fig. 3 item 314) and that MAC circuitry is used (page 2 section 0039, MAC address). Novak fails to specifically state that the bus connects a MAC of the broadband communication circuitry and a MAC of the decoder circuitry. Brooks shows that a bus connects a MAC of the broadband communication circuitry and a MAC of the decoder circuitry (fig. 2 items 224, 226, EMAC and CMAC, col. 7 lines 7-45, Ethernet MAC and Cable MAC connected by bus 214). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Novak with the ability of the communications MAC and decoder MAC to communicate through the bus, as shown in Brooks, so that the system device could adequately communicate with each other and perform necessary data functions using cable modem circuitry which flexibly supports evolving standards without requiring expensive hardware upgrades (Brooks et al.: Col 2, Lines 58-65).

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10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman (US Pat No. 6,813,643) in view of common knowledge as supported by applicant's admitted prior art (APA).

In consideration of claim 20, Figure 2C of the Perlman reference illustrates a "system for transmitting content over a broadband network". The reference teaches the particular distribution of MPEG encoded video content and other data through a DOCSIS only transmission scheme (Col 5, Lines 23-39) whereupon such signals are received and decoded for display. The reference, however, is silent with respect to commonly known components and functions associated with the implementation of a DOCSIS signal transport (Col 3, Lines 29-37). APA provides evidence of the fact that typical components found in a cable modem [28] for DOCSIS signal transport include a "means for stripping incoming content messages of DOCSIS format information so that the incoming content is left in encoded versions of its native format" [34] and a "media access controller coupled to the stripping means for receiving the content in the encoded version of its native format" [36] (APA: Figure 2; Page 8, Line 22 – Page 9, Line 6). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the network interface so as to further utilize a "means for stripping . . . " and a "media access controller" for the purpose of doing as necessary to implement a DOCSIS compatible signal transport/reception in an inexpensive manner through the use of typically utilized components.

As illustrated in Figure 2C of Perlman, the system further includes "means for decoding the incoming content into its native format coupled to the media access controller" [270] (Col

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1, Lines 38-46) and “means for distributing” [251] “the decoded content in its native format from the decoding means to one or more of a plurality of output ports according to the native format type” such that MPEG decoded content is rendered on a television [135] or stored for later viewing [120].

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made.

- The DOCSIS 2.0 specification provides evidence as to further aspects of DOCSIS processing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Beliveau whose telephone number is 571-272-7343.

The examiner can normally be reached on Monday-Friday from 8:30 a.m. - 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SEB

June 1, 2006

Scott Beliveau  
Examiner  
Art Unit 2623